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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/040,825	03/18/1998	MARIO FRYBERG	ICH275	2298
25230	7590	08/11/2006	EXAMINER	
ONOFRIO LAW			YAMNITZKY, MARIE ROSE	
107 SHAD ROW			ART UNIT	
PIERMONT, NY 10968			PAPER NUMBER	

1774

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/040,825

Applicant(s)

FRYBERG ET AL.

Examiner

Marie R. Yamnitzky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,4 and 6-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 3,4,6-13 and 15-20 is/are rejected.
7) ☒ Claim(s) 14 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. This Office action is in response to applicant's amendment received May 30, 2006, which amends claims 11-13 and adds claims 14-20.

Claims 3, 4 and 6-20 are pending.

2. On April 21, 2006, a telephonic interview was conducted between Examiner Yamnitzky and applicant's representative Dara Onofrio. During the April 21st telephonic interview, the issues raised in the Office action mailed January 24, 2006 were discussed. With respect to the weight % range in claim 13, the examiner noted that if gelatin is the only binder, the examples provide support for a range of about 12 to 70 weight % (Sample Nos. 10 and 37). With respect to the prior art and claim 13, the possibility of limiting the layer to one consisting essentially of (a) and (b) instead of comprising (a) and (b) was discussed. The examiner indicated that consisting essentially of language would not necessarily exclude other materials that function as binders. With respect to the prior art and claim 12, the possibility of limiting R to alkyl with 1-6 carbon atoms was revisited (this issue was previously discussed during a telephonic interview between the examiner and Dara Onofrio on August 08, 2002). No agreement with respect to the claims was reached during the April 21st interview. The examiner indicated that she would provide a record of the substance of the interview, and applicant need not provide a separate record.

3. The rejection of claims 3, 4 and 6-12 under 35 U.S.C. 103(a) and unpatentable over Kono et al. (4,801,497) in view of Smigo et al. (5,281,307) is overcome by applicant's amendment of

claim 12 limiting R to an alkyl with 1-6 carbon atoms. With this definition of R, the amine units in the required copolymer are secondary amines. While Kono's broad disclosure of PVA having a cationic group such as a primary to tertiary amino group encompasses such copolymers, neither Kono et al. or Smigo et al. disclose a copolymer of the general structure required by amended claim 12, with claims 3, 4 and 6-11 dependent therefrom. The exemplary N-vinylamides disclosed at column 5, lines 14-24 of the Smigo patent provide copolymers in which the amine units are primary amines (i.e. copolymers in which R = H).

4. Claims 3, 4 and 6-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Support for the quantity of copolymer as set forth in part (c) of claim 12 is not clear given that the claims now limit the copolymer to one in which R = alkyl with 1-6 carbon atoms, and none of the recording sheet examples utilize such a copolymer. Quantity of copolymer is disclosed only in the specific recording sheet examples set forth beginning on page 17 of the specification. Copolymer 7 as prepared in Example 2 on pages 16-17 is a copolymer in which R is an alkyl with 1-6 carbon atoms, but copolymer 7 is not utilized in any of the specific recording sheet examples.

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5. Claims 15 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each occurrence of the phrase “such as” renders claims 15 and 19 indefinite because it is not clear if the claims are limited to the more specific materials recited after “such as”, or to the broader group of materials recited before “such as”. For example, it is not clear if any derivatized gelatin may be used for claim 15, or only “phthaloylated, acetylated or carbomylated” gelatin.

In claim 15, it is also not clear if “derivatised gelatin with trimellytic acid” indicates a mixture of trimellytic (trimellitic?) acid with derivatized gelatin, or if this language refers to gelatin that is derivatized with trimellytic acid.

In claim 19, the terminology of “sulfuric acid ester group” and “phosphoric acid ester group” does not reflect the complete name of a compound/surfactant. It is not clear if this language encompasses any surfactant containing a sulfuric acid ester group or phosphoric acid ester group.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 13 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kono et al. (4,801,497) in view of Smigo et al. (5,281,307).

Kono et al. disclose recording media for ink jet printing comprising a support and at least one ink-receptive layer. Kono et al. teach the use of cationically modified polyvinyl alcohol in an ink-receptive layer.

Kono discloses the use of cationically modified polyvinyl alcohol wherein the cationic group is present in the polymer in an amount between 0.05 and 20 mole percent. The cationically modified polyvinyl alcohol is used in combination with one or more other polymers. See the whole patent. In particular, see the abstract, column 4, lines 11-18, c. 4, l. 59 to c. 6, l. 16 and c. 7, l. 35-53.

Kono does not explicitly disclose a copolymer of the general structure set forth in independent claims 13 and 20, although such a copolymer is within the scope of Kono's cationically modified polyvinyl alcohol which is a polyvinyl alcohol having a cationic group such as a primary, secondary or tertiary amino group, or a quaternary ammonium group. The copolymer required by the present claims is a polyvinyl alcohol having a primary or secondary amino group. The mole percent range of the cationic groups as disclosed by Kono (0.05 to 20 mole percent) encompasses the relative amount of vinyl amine units required by the present claims ($y = 0.05$ to 0.2 , which is 5 to 20 mole percent). Kono discloses a preferable range (0.1 to 10 mole percent) which overlaps the presently claimed range for y .

Smigo et al. disclose a paper coated with a polyvinyl alcohol/vinyl amine copolymer containing between 0.5 and 25 mole% vinylamine units, preferably 2 to 12 mole% vinylamine units. The copolymer may be made by copolymerizing vinyl acetate with N-vinylamides such as

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N-vinyl formamide or N-vinyl acetamide, followed by hydrolysis of the vinyl acetate to vinyl alcohol and hydrolysis of the vinyl amide to vinylamine. A crosslinking agent may also be used to crosslink the copolymer. See the whole patent. In particular, see column 1, line 44 to c. 2, l. 22, c. 4, l. 61 to c. 5, l. 25, c. 6, l. 8-20, c. 6, l. 36-60 and Examples 1-5. The copolymers disclosed by Smigo are polyvinyl alcohols containing amino groups, and are inherently cationic. Smigo teaches using the copolymers to coat paper and paper-type products in order to provide improvements in properties such as dry strength, wet strength and fold resistance.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the copolymers disclosed by Smigo as the cationically modified polyvinyl alcohol used in the recording medium of Kono. One of ordinary skill in the art would have been motivated to do so by the fact that the copolymers taught by Smigo meet Kono's requirements for the cationically modified polyvinyl alcohol including the mole percent requirements for the cationic group, and by Smigo's teachings regarding the improved properties provided by using the copolymer. One of ordinary skill in the art would recognize that the improved properties taught by Smigo would be beneficial with respect to a recording medium for ink jet printing.

Regarding the requirement of claim 13 and dependents for a binder consisting of gelatin, the Kono patent discloses gelatin. Regarding the requirement of claim 20 for a binder selected from gelatin, carboxymethyl cellulose, copolymers derived from acrylic acid and esters of acrylic acid or mixtures thereof, the Kono patent discloses materials within the scope of the recited group. See column 7, lines 35-53 of the Kono patent. While Kono requires Polymer-A in addition to gelatin or any of the other materials recited at c. 7, l. 35-53, the composition of the

layer in present claim 13 and dependents, and present claim 20, is open to other components. The layer consists essentially of at least one copolymer of the specified structure and a binder consisting of gelatin (in the case of claim 13 and dependents) or a binder selected from a specified Markush group of materials (in the case of claim 20). The language of claims 13 and 20 does not clearly exclude one or more additional binders. The terminology “consists essentially of” and “consisting essentially of” does not exclude materials that do not materially affect the basic and novel characteristics of the claimed recording sheet. There is no evidence of record to demonstrate that a polymer such as Kono’s Polymer-A would materially affect the basic characteristics of the claimed recording sheet.

Kono et al. do not limit the gelatin to those recited in claim 15. Absent a showing of criticality for a particular type of gelatin, it is the examiner’s position that it would have been within the level of skill of a worker in the art at the time of the invention to select a gelatin from known gelatins.

With respect to the requirement of claims 16 and 20 for a crosslinking agent, Smigo et al. disclose crosslinking agents (e.g. see c. 6, l. 8-20).

With respect to the additives required by present claims 17-19, see c. 7, l. 54-61 and c. 9, l. 16-24 of the patent to Kono et al.

With respect to the thickness range recited in claim 20, see c. 9, l. 12-15 of the patent to Kono et al.

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8. Miscellaneous:

The examiner suggests deleting the comma at the end of line 2 of claim 9.

In claim 11, line 2, “[]” before “CH₃” should be deleted.

In claims 12 and 13, the examiner suggests deleting the extraneous line that appears down the left side of the formula.

In the second line after the formula in claim 12, “[]” before “alkyl” should be deleted.

In the third line from the end of claim 12, “[]” before “between” should be deleted.

In claim 13, line 3: “[]” before the colon should be deleted.

In the sixth line after the formula in claim 13, “[;]” after the period should be deleted.

With respect to the brackets that should be deleted in claims 11-13, deletion is shown with strikethrough or double brackets. The single brackets in claims 11-13 were not part of the claim text in the prior amendment and should not have been included in the present claim text. The examiner suggests that the brackets simply be omitted from the next version of the claims.

In view of the specification, “or” as recited at the end of the eighth line of claim 19 should apparently read --of--.

Claim 20, line 2: As a grammatical correction, “consisting” should read --consists--.

9. Claims 3, 4 and 6-12 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112, 1st paragraph, set forth in this Office action, and with correction of the miscellaneous issues noted above.

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The rejection under 35 U.S.C. 112, 1st paragraph, could be overcome by deleting the phrase "the quantity of said copolymer is [] between 10 to 75 weight % of the combined amount of said copolymer and binder and" from claim 12.

10. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not disclose or suggest the amount of copolymer relative to combined amount of copolymer and gelatin as required by present claim 14.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

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The current fax number for all official faxes is (571) 273-8300. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
August 07, 2006



**MARIE YAMNITZKY
PRIMARY EXAMINER**

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